Application No.: 10/623,011 Docket No.: NGW-009RCE2

AMENDMENTS TO THE CLAIMS

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1. (Currently Amended) An apparatus for protecting a fuel cell which generates electricity by supplying as reaction gases hydrogen to an anode and oxygen to a cathode for electrochemical reaction, the apparatus comprising:

a hydrogen sensor for detecting hydrogen in off-gas discharged from the cathode;

an operating state detecting unit separate and distinct from the hydrogen sensor for detecting an operating state of the fuel cell, wherein the operating state detecting unit includes a pressure detector for detecting the pressure of the reaction gases supplied to the anode and the cathode, a flow rate detector for detecting the flow rate of the reaction gases supplied to the anode and the cathode and a current controller for detecting a generated current of the fuel cell;

a memory unit for storing a determination threshold value which changes according to the operating state of the fuel cell during operation of the fuel cell, wherein the determination threshold value decreases when a loaded state of the fuel cell decreases;

a control unit programmed to determine an abnormal state of the fuel cell ~~determining unit for~~by comparing a detection value outputted from the hydrogen sensor and the determination threshold value obtained from the memory unit according to the operating state of the fuel cell outputted from the operating state detecting unit and determining that the fuel cell is in ~~an~~ the abnormal state if the detection value exceeds the determination threshold value; and

a protecting unit for changing the operating state of the fuel cell if the ~~abnormal state determining~~ control unit determines that the fuel cell is in the abnormal state.

2. (Original) An apparatus for protecting a fuel cell as set forth in Claim 1, wherein the protecting unit reduces at least one of the difference in pressure between the reaction gases at the anode and the cathode, supply pressure of the reaction gases, supply flow rate of the reaction gases and generated current of the fuel cell.

3. (Canceled)

4. (Currently Amended) A method for protecting a fuel cell which generates electricity by supplying as reaction gases hydrogen to an anode and oxygen to a cathode for electrochemical reaction, the method comprising:

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detecting hydrogen in off-gas discharged from the cathode;

detecting an operating state of the fuel cell, separately and distinct from detecting the hydrogen in the off-gas discharged from the cathode, wherein detecting an operating step includes detecting a pressure of the reaction gases supplied to the anode and the cathode, a flow rate of the reaction gases supplied to the anode and the cathode, and a generated current of the fuel cell;

comparing a detection value of the hydrogen in the off-gas and a determination threshold value changing according to the detected operating state of the fuel cell during operation of the fuel cell, wherein the determination threshold value decreases when a loaded state of the fuel cell decreases;

determining that the fuel cell is in an abnormal state if the detection value exceeds the determination threshold value; and

changing the operating state of the fuel cell if the fuel cell is determined to be in the abnormal state.

5. (Original) A method for protecting a fuel cell as set forth in Claim 4, wherein the operating state changing step includes reducing at least one of the difference in pressure between the reaction gases at the anode and the cathode, supply pressure of the reaction gases, supply flow rate of the reaction gases and generated current of the fuel cell.

6. (Canceled)

7. (Previously Presented) An apparatus for protecting a fuel cell as set forth in Claim 1, wherein the operating state of the fuel cell includes a differential pressure between the reaction gases at the anode and the cathode, a supply pressure of at least one of the reaction gasses, a supply flow rate of at least one of the reaction gases, or a generated current of the fuel cell.

8. (Previously Presented) A method for protecting a fuel cell as set forth in Claim 4, wherein the operating state of the fuel cell includes a differential pressure between the reaction gases at the anode and the cathode, a supply pressure of at least one of the reaction gasses, a supply flow rate of at least one of the reaction gases, or a generated current of the fuel cell.

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